

NOTES ON GRIBURIUS MONTEZUMA (SUFFRIAN)
(COLEOPTERA-CHRYSOMELIDÆ)

BY R. H. BEAMER

*Department of Entomology, University of Kansas,
Lawrence*

The University of Kansas Biological Survey party on July 5, 1923, accompanied by Mr. Warren Knaus of McPherson, Kansas, visited the salt-marshes and surrounding hills in Kiowa County, Kansas. On the roof of a cave in a rocky bluff a large series of *Griburius montezuma* (Suffrian) was taken. The cave extended back into the cliff perhaps eight feet, and was two feet in diameter at the smallest place. Quite a large number of sticks and much débris was piled up at the farther end, upon which were two young buzzards. The stench which accompanies a buzzard's nest was not lacking. The specimens of *Griburius* were found mating in large numbers on the roof of this cave. Some were also observed flying in and out.

A small den with two openings and a stick nest at the back of it was also a favorite place with the beetles. This second place was perhaps ten feet from the first, along the same cliff. As this particular species was considered a good find by Mr. Knaus, a good deal of interest was taken in the actions of the individuals and their seeming preference of location. We then searched all the caves, shady cliffs, crevices, and all other places in that immediate vicinity, but not a single specimen could we find. On July 12, 1923, however, in Ellsworth County, Kansas, perhaps seventy-five miles north and fifty miles east of the first locality, another buzzard's nest cave was found and here four more specimens of this same species were taken. This called forth a further search of all the caves in the vicinity, but no more specimens were found.

In the rather hasty examination of the débris about the nests no larval cases or other indications of the insect's life history were found at the time of our first visit. This preference, however, for a very definite location for mating and the knowledge that some closely related forms are scavengers in ants' nests led us to suspect that this beetle did pass its early stages in the

refuse of rodent or buzzard nests. It was with a great deal of interest, therefore, that we made our second visit to these same caves in Kiowa County, Kansas, on April 12, 1925. We were rewarded by finding both the living larvæ in their cases and the old cast-skins of previous generations.

The sandstone in which the caves occur is friable and the walls about the entrance have been honeycombed in the process of erosion. It was in these small holes and under stones at the mouth of the caves that the larval cases were found. About three dozen cases were collected. The beetles emerged in due time, but the attempt to obtain the life history failed, for the specimens all died before laying eggs, although two pairs were observed to mate in captivity. The evidence is conclusive that they overwinter as larvæ, and is suggestive of but one generation a year. Thanks are due to Mr. H. C. Fall of Tyngsboro, Massachusetts, for identification of the species.

A LUMINOUS ZARHIPIS (COLEOPTERA)

On April 3, 1926, an adult male of *Zarhipis riversi* Horn (?) was examined with a view to finding out whether or not it possessed the power of luminosity. The insect was taken into a dark room and, when excited by shaking and moving about, was observed to be distinctly luminous. So far as could be determined in the dark this luminosity involved the posterior and lateral borders of the first, second and third abdominal segments dorsally, and the sides, apparently just back of the spiracles, of the remaining segments. The light was greenish yellow and, though faint, could be seen at a distance of about two feet. The insect seems to have at least partial control over this power, as it was luminous only when disturbed and then shone steadily for some time. Later in the day the insect failed to show any light, no matter how much it was agitated.

Another male taken on May 3 refused to become luminous at first, but after several trials over a period of about four hours it shone very feebly for a short time. The females of this genus are distinctly luminous and apparently do not have any control over the light, as they glow steadily.—A. C. Davis.